

Appl. No. 09/821,230
Amdt. Dated November 3, 2004
Reply to Office Action of June 3, 2004

• • REMARKS/ARGUMENTS • •

The Advisory Action of September 23, 2004 and the Official Action of June 3, 2004 have been thoroughly studied. Accordingly the following remarks are believed to be sufficient to place the application into condition for allowance.

Claims 1 and 2 are pending in this application.

Claims 1 and 2 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Morman.

For the reasons set forth below, it is submitted that each of the pending claims are patentable over the prior art relied upon by the Examiner and therefore, the outstanding rejection of the claims should properly be withdrawn.

Favorable reconsideration by the Examiner is earnestly solicited.

In the Advisory Action the Examiner stated that Applicants' Request for Reconsideration filed September 3, 2004 was considered, but did not place the application into condition for allowance because:

It was argued "oriented substantially in one direction" precludes the spunbond of Morman. For Applicant's benefit, it should be noted that spun-bond products are defined in the industry as follows (from a common textile dictionary):

SPUN-BONDED PRODUCTS: Nonwoven fabrics formed by filaments that have been extruded, drawn, then laid on a continuous belt. Bonding is accomplished by several methods such as by hot roll calendaring or by passing the web through a saturated-steam chamber at elevated pressure.

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Given this definition is clear that the filaments of a spunbond are generally oriented along the direction of the collection belt, i.e., they MUST be so oriented. "Substantially in one direction" is not defined anywhere in the claims or the disclosure, therefore it is not seen how the phraseology excludes spunbond products. It is true that such filaments can incorporate a good deal of non-linear configuration as they are laid down, but they must continue to extend in one direction, and that is the direction of the belt motion.

The Examiner overlooks the fact that applicants' independent claim 1 requires that:

The inelastically stretchable continuous fibers of the inelastically stretchable fibrous layer are "oriented substantially in said one direction" "so that a tensile strength S_1 of said composite sheet in said first direction and a tensile strength S_2 of said composite sheet in said second direction define a ratio S_1/S_2 of 3.0 or higher."

In addition to requiring a specific structure, i.e. the orientation of the fibers in one direction, independent claim 1 requires a resulting or qualifying function or rather physical property result, i.e., "so that a tensile strength S_1 of said composite sheet in said first direction and a tensile strength S_2 of said composite sheet in said second direction define a ratio S_1/S_2 of 3.0 or higher."

The Examiner's definition and interpretation of spunbond fibers does not necessarily meet each of the elements/limitations of applicants' independent claim 1 as set forth in the preceding paragraph.

As the Examiner is no doubt aware, extruded fibers or filaments are randomly discharged from extruder nozzles so that there is a great deal of non-linear configuration as they are laid down on a support. In the industry it is never said that such fibers or filaments are oriented along the direction in which the support, e.g. belt, is moved.

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In the case of applicants' invention we have an exceptional situation in which, as discussed on page 10, line 12 through page 11, line 7 of applicants' specification, the fibers 6 are oriented or rather "reoriented" by the velocity difference between the first conveyor belt 32 and the second conveyor belt 36.

Morman is completely silent as any steps or measures taken to produce spunbond fibers that would be considered by those skilled in the art as being oriented in the same direction.

Moreover, the definition which the Examiner relied upon (no authoritative citation given) that spun-bond products are:

Nonwoven fabrics formed by filaments that have been extruded, drawn, then laid on a continuous belt. Bonding is accomplished by several methods such as by hot roll calendaring or by passing the web through a saturated-steam chamber at elevated pressure.

does not actually indicate that the filaments of spunbond products are oriented substantially in one direction nor provided any teaching as to how to reorient the fibers in the manner disclosed by applicants.

There are other differences between Morman and the present invention as have been previously argued.

At column 4, lines 16-30 Morman teaches a method which involves:

- (a) applying a tensioning force to at least one neckable material to neck the material;
- (b) elongating and elastic sheet; and
- (c) joining the tensioned, necked material to the elongated elastic sheet.

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Morman defines "necked material" in column 3, lines 16-20 as "any material which has been constricted in at least one dimension by applying a tensioning force in a direction that is perpendicular to the desired direction of neckdown."

"Neckable material" is defined as "any material which can be necked."

Examples of neckable materials are given in column 4, lines 46-50 and include knitted fabrics; loosely woven fabrics, nonwoven webs - all of which are fiber assemblies that have entanglements of fibers that are produced by bonding, melting knitting, etc. None of these types of fiber assemblies have fibers that are oriented substantially in the same direction.

As discussed at page 2, line 1 through the paragraph bridging pages 2 and 3 of applicants' specification, applicants' invention is an improvement over the type of necked, spunbond nonwoven fabrics used by Morman.

According to applicants' invention, even if the continuous fibers 6 are fused together to some extent when they are formed, they are separated from one another and oriented (or "reoriented") along one direction when they are transferred onto the second conveyor belt 37 as discussed in the paragraph bridging pages 10 and 11 of applicants' specification.

As a result, the present invention provides a composite sheet in which a plurality of inelastically stretchable continuous fibers are evenly stretched in one direction. Consequently, unevenness in the fiber diameter after stretching is minimized, resulting in improved touch/feel and appearance as discussed on page 12, lines 15-22 of applicants' specification.

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Structurally, as claimed, and due to the process differences between Morman and the present invention, the inelastically stretchable continuous fibers of applicants' invention are "oriented substantially in said one direction" ... "so that a tensile strength S_1 of said composite sheet in said first direction and a tensile strength S_2 of said composite sheet in said second direction define a ratio S_1/S_2 of 3.0 or higher."

Morman fails to teach the structure of applicants' claimed invention.

The Examiner has stated in the Advisory Action that the filaments of a spunbond product "MUST" be "generally oriented along the direction of the collection belt."

Applicants respectfully disagree and submit that the filaments are randomly oriented, howbeit on a belt that is moving.

Note, Morman states that the term "nonwoven web" means a web that has a structure of individual fibers or threads which are interlaid, but not in an identifiable, repeating manner. (column 2 lines 33-35).

The Examiner's unsupported interpretation of spunbond cannot negate the express teachings of the prior art relied upon.

It is noted that in the Advisory Action the Examiner states that:

It is true that such [spunbond fiber] filaments can incorporate a good deal of non-linear configuration as they are laid down, but they must continue to extend in one direction, and that is the direction of the belt motion. (emphasis added)

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There is a subtle difference between fibers which "extend" in one direction and those that "are oriented" in one direction, with orientation implying some act of arranging the alignment of the fibers in a specific direction.

Even if spunbonded fibers or filaments were considered as "extending" collectively in the direction of a moving support upon which they are deposited, they are not necessary "oriented," i.e. aligned in one direction.

Based upon the above distinctions between Morman and the present invention, and the overall teachings of Morman, properly considered as a whole, it is respectfully submitted that the Examiner cannot rely upon Morman as required under 35 U.S.C. §103 to establish a *prima facie* case of obviousness of applicants' claimed invention.

It is, therefore, submitted that any reliance upon Morman would be improper inasmuch as Morman does not remotely anticipate, teach, suggest or render obvious the present invention.

It is submitted that the pending claims and the discussion contained herein clearly show that the claimed invention is novel and neither anticipated nor obvious over the teachings of Morman and the outstanding rejections of the claims should hence be withdrawn.

Therefore, reconsideration and withdrawal of the outstanding rejection of the claims and an early allowance of the claims is believed to be in order.

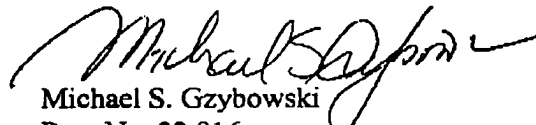
It is believed that the above represents a complete response to the Official Action and reconsideration is requested.

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If upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved; the Examiner is invited to contact applicants' patent counsel at the telephone number given below to discuss such issues.

To the extent necessary, a petition for an extension of time under 37 CFR §1.136 is hereby made. Please charge the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 12-2136 and please credit any excess fees to such deposit account.

Respectfully submitted,


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